



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under GA No 101004730.

Welcome to CERN and LER2024

9th Low Emittance Rings' workshop,
CERN 13-16/02/2024
Yannis Papaphilippou, CERN

iFAST



9th Low Emittance Rings' workshop 2024

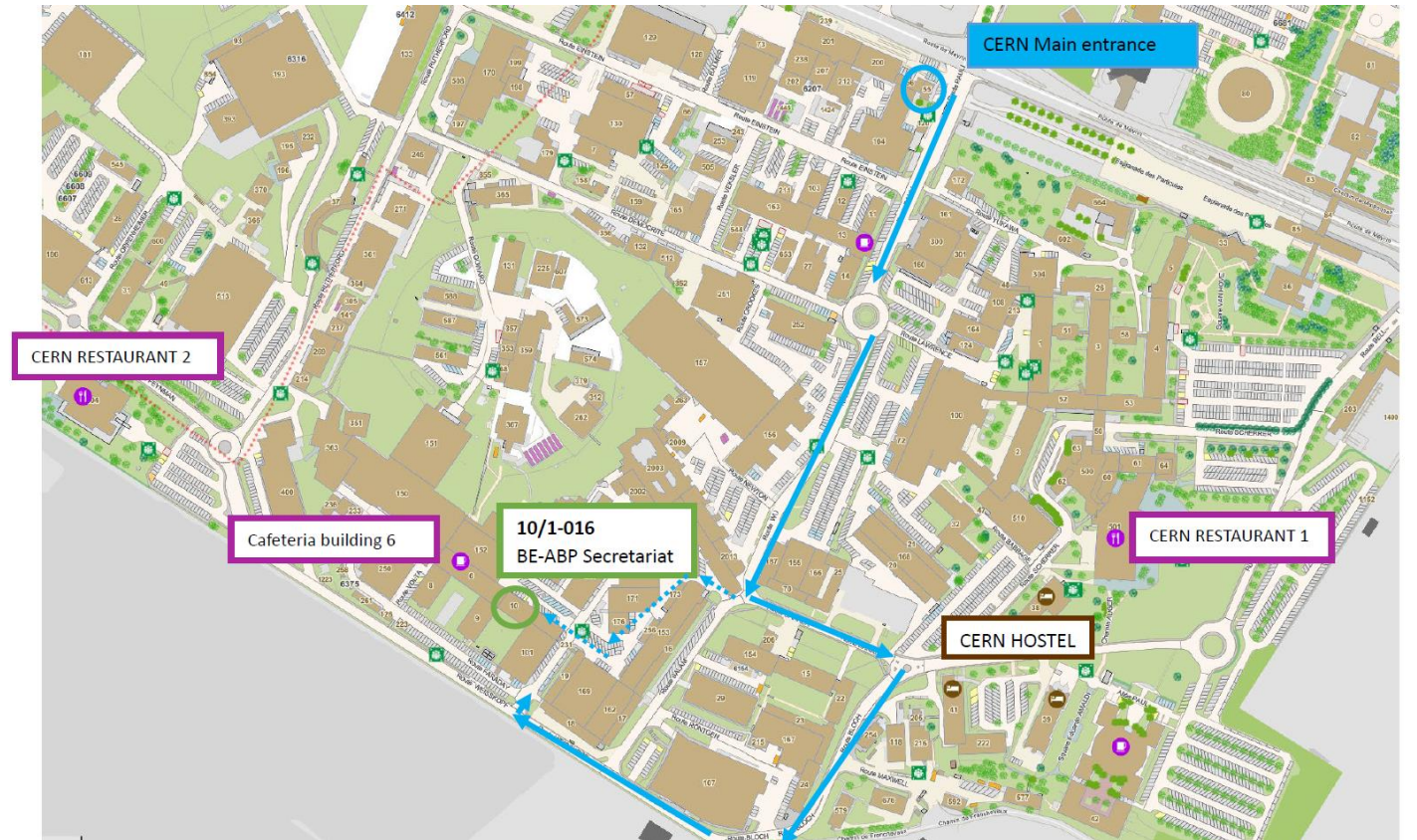
- Supported by **I.FAST EU project Work Package 7** on **High brightness accelerators** for **light sources**
- **Goal:** Bring together scientific communities working on **low emittance lepton rings**, including **light source storage rings, damping rings** and **e⁺/e⁻ circular colliders**.
- Workshop **sessions** include:
 - **Low emittance ring lattice design**, including **optics measurements** and **correction, low emittance tuning, non-linear dynamics (Tuesday am/pm)**
 - **Project overviews (Wednesday am)**
 - **Collective effects** and **beam stability aspects (Wednesday am/pm)**
 - **Associated technologies for low emittance rings** including **magnet design, diagnostics, feedbacks (Tuesday pm)** and **harmonic cavities (Wednesday pm)**
 - **Power Consumption, efficiency** and **sustainability**, including **related technologies** in collaboration with **I.FAST WP11 (Thursday am)**
 - **Computing tools machine Learning** and **AI (Thursday pm)**
 - **Injection, machine protection** and **collimation (Friday am)**

Some numbers and instructions

- Almost **~100 registered participants**, new record for in-person event!
- Interested colleagues can follow workshop through [zoom](#)
- **~70 presentations**, very packed program, many thanks to **chairs** for ensuring **strict time management**
- **Instructions** to speakers:
 - Please **upload** your **presentation** to [indico](#) **ASAP** and **no later** than the end of the previous session
 - Leave **2-3 minutes** for **discussion**, more discussion time available at the end of each session

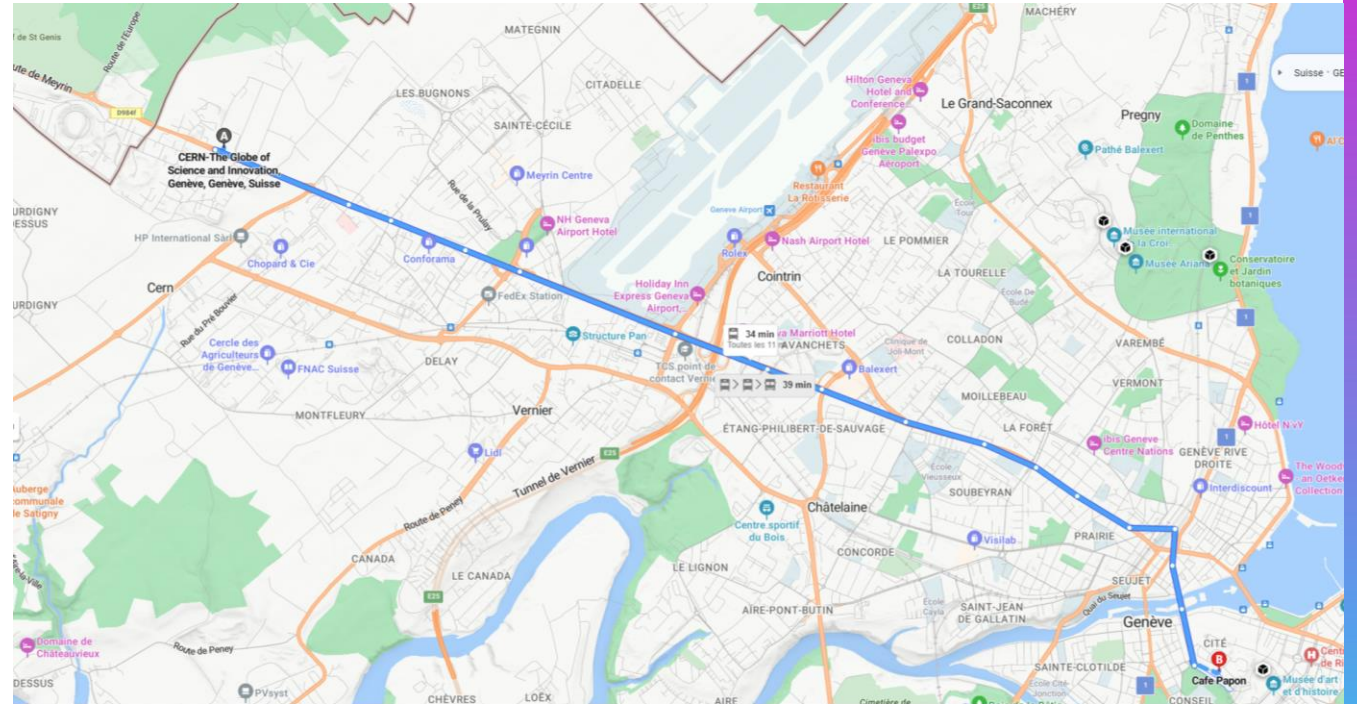
Logistics

- **BE Auditorium** is located in **6/2-024**
- Coffees will be served at **Blg. 6 cafeteria** (1st floor)
- **Lunch tickets** will be provided for **Restaurant 2** to registered participants
- **Welcome drink** organized at the **CERN Glassbox (Restaurant 1)** on **Tuesday 13 February 2024** as from 19h.
- Some visits (LINAC4+LEIR, CLEAR, Synchro-Cyclotron) are proposed on **Friday 16 February 2024 pm**



Workshop dinner

- Organized in [Café Papon](#) (Rue Henri Fazy 1, 1204, Genève) on **Thursday February 15th 2024** at **20h** (sharp!)
- **Public transport: Tram 18** in front of Globe of Innovation (~30 mins trip). Stop at **Place de Neuve** and walk up-hill towards the old town (~5 mins.). Leave CERN by ~19:00 to be on time!
- Tram tickets available through **TPG application** on your **mobile phone** or **buy ticket at** Tram Stop with Cash in CHF or credit card.



Announcements

I.FAST Workshop 2024 on Bunch-by-Bunch Feedback Systems and Related Beam Dynamics Joint organization by SOLEIL and KIT

3-6 March 2024
KIT
Europe/Berlin timezone

Overview
Scientific Programme
Timetable
Contribution List
Registration
Participant List
Accommodation
Venue
Workshop Organizing Committee
Contact
✉ leyla.jochim@kit.edu
✉ akira.mochihashi@kit.edu



Bunch-by-bunch feedback systems have become essential components of high-energy particle accelerators, particularly for ultra-low emittance rings. These systems have been widely used in accelerator facilities to ensure beam quality and to apply them to extensions such as beam diagnostics or manipulation. Bunch-by-bunch feedback systems include various hardware components and related technologies, ranging from fast digital signal processing to high power radiofrequency devices. The workshop aims to discuss a wide range of topics related to bunch-by-bunch feedback systems including new ideas and technologies, with the emphasis on exchanging information and sharing knowledge to engage in global networking in this scientific field. New ideas and technologies for the feedback systems and related beam dynamics in the future accelerators come into view of the workshop.

The workshop is directly followed by the I.FAST workshop on Injectors for Storage Ring Based Light Sources, held on the 7-8 March 2024 at KIT (<https://indico.scc.kit.edu/event/3948/>).

Workshop:

3 – 5 March 2024 at KIT North Campus, Karlsruhe

Joint Experimental Campaign:

5 – 6 March 2024

with the KARA 2.5 GeV electron storage ring

**! Registration deadline !
20. February 2024**

<https://indico.scc.kit.edu/event/3742/>



Announcements

I.FAST Workshop 2024 on Injectors for Storage Ring Based Light Sources

Joint organization by PSI, SOLEIL and KIT

6-8 March 2024
KIT
Europe/Berlin timezone

Workshop:
**6 – 8 March 2024 at KIT North Campus,
Karlsruhe**

***The workshop directly follows the bunch-by-bunch feedback system workshop**

Overview
Timetable
Contribution List
Registration
Participant List
Accommodation
Venue
Workshop Organizing Committee
Contact
✉ akira.mochihashi@kit.edu
✉ leyla.jochim@kit.edu



In storage ring based light sources with ultra-low emittance beams, not only high brilliance but also correspondingly high beam stability is required. In order to guarantee the necessary charge and position stability at extraction the injectors have to meet high demands in delivering beams that allow high injection efficiency without disturbing the stored beam. To this end it is essential to look at injectors from both a technological and beam physics point of view.

The workshop aims to provide an opportunity to exchange information and knowledge on injectors in the context of realizing ultra-low emittance rings with sufficient beam quality and stability. It is also meant as a platform for enhancing the networking between facilities involved in accelerator science and technology worldwide, exploiting synergies among various scientific fields.

! Registration deadline !
20. February 2024

**We look forward to seeing you
in Karlsruhe!**



<https://indico.scc.kit.edu/event/3948/>

Y. Papaphilippou – LER 2024

iFAST

Thank you for your attention!



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under GA No 101004730.